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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/196,680	11/20/1998	STEPHEN J. MEYER	16114:E (-003US)	9428

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FOR: TYCO FIRE SUPPRESSION & BUILDING PRODUCTS
PERKINS COIE LLP
607 Fourteenth Street, NW
Washington, DC 20005-2003

EXAMINER

KIM, CHRISTOPHER S

ART UNIT	PAPER NUMBER
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3752

NOTIFICATION DATE	DELIVERY MODE
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02/25/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 09/196,680	Applicant(s) MEYER ET AL.	
	Examiner Christopher S. Kim	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 14, 15 and 20-74 is/are pending in the application.
- 4a) Of the above claim(s) 55-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14, 15, 20-54 and 62-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The response filed November 20, 2009 is acknowledged.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1-11, 14, 15, 20-23, 25-44, 47-54, 62 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites the limitation "the face portion having an opening consisting of a circular opening axially aligned with the center axis and engaged with a portion of the body to space the face portion from the outlet" in lines 12-14. The specification discloses, on page 4, lines 15-16, "Frame 11 includes a generally tubular body 12 and an adjoining yoke indicated generally 20." The specification further discloses, on page 7, line 22 through page 8, line 2, "Deflector 40 is supported from the frame 11 integrally secured with the frame, by being mounted over a boss 26b provided at the extreme axial end of the knuckle 26 at the end of yoke 20." The specification teaches that the face portion 42 of deflector 40 engages the yoke 20 rather than the generally tubular

body 12. In fact, the circular opening of the face portion 42 does not engage the tubular body 12.

Claim 20 recites the limitation "the body having a knuckle spaced from the outlet" in line 4. The specification discloses, on page 4, lines 15-16, "Frame 11 includes a generally tubular body 12 and an adjoining yoke indicated generally 20." The specification further discloses, on page 6, lines 4-5, "knuckle 26 of the yoke 20." The specification does not teach the tubular body 12 having a knuckle. Rather, the specification teaches that the yoke 20 has a knuckle 26.

Claim 25 recites the limitation "the face portion having an opening consisting of a circular opening coupled to the body" in line 15. The specification discloses, on page 4, lines 15-16, "Frame 11 includes a generally tubular body 12 and an adjoining yoke indicated generally 20." The specification further discloses, on page 7, line 22 through page 8, line 2, "Deflector 40 is supported from the frame 11 integrally secured with the frame, by being mounted over a boss 26b provided at the extreme axial end of the knuckle 26 at the end of yoke 20." The specification teaches that the face portion 42 of deflector 40 engages the yoke 20 rather than the generally tubular body 12. In fact, the circular opening of the face portion 42 is not coupled to the tubular body 12.

Claim 42 recites the limitation "the face portion having an opening consisting of a circular opening coupled to the body" in lines 16-17. The specification discloses, on page 4, lines 15-16, "Frame 11 includes a generally tubular body 12 and an adjoining yoke indicated generally 20." The specification further discloses, on page 7, line 22 through page 8, line 2, "Deflector 40 is supported from the frame 11 integrally secured

Art Unit: 3752

with the frame, by being mounted over a boss 26b provided at the extreme axial end of the knuckle 26 at the end of yoke 20." The specification teaches that the face portion 42 of deflector 40 engages the yoke 20 rather than the generally tubular body 12. In fact, the circular opening of the face portion 42 is not coupled to the tubular body 12.

Claim 47 recites the limitation "the face portion having an opening consisting of a circular opening coupled to the body" in lines 12-13. The specification discloses, on page 4, lines 15-16, "Frame 11 includes a generally tubular body 12 and an adjoining yoke indicated generally 20." The specification further discloses, on page 7, line 22 through page 8, line 2, "Deflector 40 is supported from the frame 11 integrally secured with the frame, by being mounted over a boss 26b provided at the extreme axial end of the knuckle 26 at the end of yoke 20." The specification teaches that the face portion 42 of deflector 40 engages the yoke 20 rather than the generally tubular body 12. In fact, the circular opening of the face portion 42 is not coupled to the tubular body 12.

Claim 48 recites the limitation "the face portion having an opening consisting of a circular opening coupled to the body" in line 17. The specification discloses, on page 4, lines 15-16, "Frame 11 includes a generally tubular body 12 and an adjoining yoke indicated generally 20." The specification further discloses, on page 7, line 22 through page 8, line 2, "Deflector 40 is supported from the frame 11 integrally secured with the frame, by being mounted over a boss 26b provided at the extreme axial end of the knuckle 26 at the end of yoke 20." The specification teaches that the face portion 42 of deflector 40 engages the yoke 20 rather than the generally tubular body 12. In fact, the circular opening of the face portion 42 is not coupled to the tubular body 12.

Claim 50 recites the limitation "the face portion having an opening consisting of a circular opening coupled to the body" in lines 17-18. The specification discloses, on page 4, lines 15-16, "Frame 11 includes a generally tubular body 12 and an adjoining yoke indicated generally 20." The specification further discloses, on page 7, line 22 through page 8, line 2, "Deflector 40 is supported from the frame 11 integrally secured with the frame, by being mounted over a boss 26b provided at the extreme axial end of the knuckle 26 at the end of yoke 20." The specification teaches that the face portion 42 of deflector 40 engages the yoke 20 rather than the generally tubular body 12. In fact, the circular opening of the face portion 42 is not coupled to the tubular body 12.

4. Claims 1-11, 14, 15, 20-54, 62-74 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the upper face portion" in lines 23-24. There is insufficient antecedent basis for this limitation in the claim.

Claims 20-54 and 63 are an undue multiplicity of claims 1-11, 14, 15 and 62. Applicant presents an unreasonable number of claims which are repetitious and multiplied, the net result of which is to confuse rather than to clarify. MPEP 2173,05(n).

Claim 64 is indefinite because the "means for dispersing" fails to invoke means plus function under 35 U.S.C. 112, sixth paragraph because it fails the third prong of the three prong analysis outlined in MPEP 2181 but applicant argues otherwise. Claim 64 requires that the "means for dispersing" requires discharging water horizontally into a spray pattern over a generally horizontal rectangularly shaped coverage area. The

claim further defines the size and position of the coverage area. If the phrase “means for” or “step for” is modified by sufficient structure, material or acts for achieving the specified function, the USPTO will not apply 35 U.S.C. 112, sixth paragraph, until such modifying language is deleted from the claim limitation. MPEP 2181.

Claim 67 recites the closed ended transitional phrase “the deflector consisting of” in line 6. The claim further recites "includes" in line 6.

Claim 72 recites the closed ended transitional phrase “the deflector consisting of” in line 4. The claim further recites "having" in line 4.

Claim 73 recites the closed ended transitional phrase “the deflector consisting of” in line 4. The claim further recites "having" in line 4.

Claim Rejections - 35 USC § 103

5. Claims 1-11, 14, 15, 20-54, 62, 63 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosio et al. (5,727,737) in view of Tramm (5,810,263) and Fischer (4,296,816).

Bosio discloses a sprinkler comprising:

- a generally tubular body 11;

- a closure 19;

- a trigger 18;

- a deflector 17 including:

- a first arm 22;

- a second arm 23;

a generally planar face portion 20 having:

- an opening consisting of a circular opening (occupied by boss 16);
- an upper edge 28-29;
- a lower edge (most bottom edge of face portion 20);

a canopy portion 21 spaced from the upper edge 28-29 so as to define a single opening 27.

Bosio cites, in column 1, lines 8-10, Fischer U.S. Pat. No. 4,296,816.

Fischer teaches a spray pattern of droplets dispersed over a generally horizontal, rectangularly-shaped coverage area (see figures 1 and 6). The coverage area may be up to 16 ft x 24 ft (see column 3 lines 55-58).

Tramm discloses, in column 5, lines 12-14, a horizontal-type fire protection sprinkler having a K-factor of at least 3.5, or at least 5.0, or at least 7.0, or at least 10.5, or at least 13.0. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have provided the sprinkler of Bosio with the range of K-factors (greater than 9) as taught by Tramm to provide a specific flow rate depending on pressure.

Functional recitations have been considered to merely require the ability to perform. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. MPEP 2114.

6. Claims 64-74 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer (4,296,816) in view of Tramm (5,810,263).

Fischer discloses a sprinkler comprising: a generally tubular body 30 having a central passageway 31, a closure 40, a trigger 44, a deflector 38; a face portion 76; a canopy portion 62; two frame arms 34; two support arms (no reference numbers); a single flow opening 79. Fischer teaches the use of a deflector 38 shaped and positioned to transform a horizontal flow of water into a spray pattern of droplets dispersed over a generally horizontal, rectangularly-shaped coverage area (see figures 1 and 6). The coverage area may be up to 16 ft x 24 ft (see column 3 lines 55-58).

Fischer discloses, in column 4, lines 33-37, canopy 62 was tested with: channel 90; channel 90 removed; and entire canopy 62 flat. Fischer discloses that with channel 90 cut away along boundary 95, "the sprinkler performed much the same as it did with no channel and an entirely flat confining element." Additionally, the claims recite a "linear profile." Fischer discloses a linear profile in figure 4.

Tramm discloses, in column 5, lines 12-14, a horizontal-type fire protection sprinkler having a K-factor of at least 3.5, or at least 5.0, or at least 7.0, or at least 10.5, or at least 13.0. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have provided the sprinkler of Fischer with the range of K-factors (greater than 9) as taught by Tramm to provide a specific flow rate depending on pressure.

The device of Fischer in view of Tramm discloses the claimed limitation with the exception of the water flow rate and coverage area being at a height of only three feet

Art Unit: 3752

below the canopy portion of the deflector. Fischer in view of Tramm discloses the structural limitations, K-factors including the relationship between flow rates and pressures, and the coverage area. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have positioned the sprinkler of Fischer in view of Tramm three feet above the coverage area to extinguish fires in three feet high compartments.

Fischer discloses the limitations of the claimed invention with the exception of the liquid filled glass bulb. Tramm discloses, pictorially, in figure 2, a liquid filled glass bulb 20. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have replaced the trigger of Fischer with the trigger (liquid filled glass bulb) of Tramm to eliminate the need for solder.

Fischer discloses, in column 3, lines 55-58, a coverage area of 16 ft x 24 ft (using a deflector comprising a generally planar face portion and a canopy portion, see figure 2). It would have been obvious to a person of ordinary skill in the art at the time the invention was made that the coverage area is dependent on the fluid pressure, and therefore, any coverage area less than 16 ft x 24 ft can be attained by reducing the pressure (or increasing the K-factor which results in a lower pressure as defined by the formula in column 5, lines 30-38 of Tramm). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have adjusted the coverage area depending on the size of the room, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

The functional recitation "...and when the sidewall fire sprinkler is paired with an identical sidewall fire sprinkler mounted approximately sixteen feet apart on a generally planar wall surface with a collection area of approximately sixteen feet between the sprinklers and sixteen feet away from one of the sprinklers, the collection area located at either one of a distance of about thirty-six inches and a distance of approximately six feet and 7.5 inches below each of the sidewall fire sprinklers so that water is delivered to the collection area at an average density of about 0.15 gallons per minute per square feet" merely recites the ability to so perform. The device of Fischer in view of Tramm discloses the structural limitations of applicant's claimed invention, and therefore, it too has the capability to so perform.

While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. MPEP 2114.

Regarding claim 64, the recitation "means for dispersing" fails to invoke means plus function under 35 U.S.C. 112, sixth paragraph because it fails the third prong of the three prong analysis outlined in MPEP 2181.

Response to Arguments

7. Applicant's arguments with respect to claims 1-11, 14, 15, 20-54 and 62-74 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3752

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Christopher S. Kim/
Primary Examiner, Art Unit 3752

CK